AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An image data generation apparatus comprising:

reception means for receiving a parameter for displaying three-dimensional image data, said parameter including at least one of information data indicating a condition for picking up an image, information data indicating a method of generating three-dimensional image data from data of the picked up image, and information data for controlling display of the three-dimensional image data;

three-dimensional image display control information generation means for generating three-dimensional image display control information by encoding said parameter; and

file generation means for generating a multimedia information file ~~including~~ based on both of said three-dimensional image display control information and said three-dimensional image data, or at least two-dimensional image data, wherein header control information is added thereto.

2. (Original) The image data generation apparatus according to claim 1, further comprising recording means for recording said multimedia information file.

3. (Original) The image data generation apparatus according to claim 1, wherein

said file generation means outputs said multimedia information file to an external communication path.

4. (Original) The image data generation apparatus according to claim 1, wherein

said three-dimensional image display control information includes at least one of first information indicating a number of viewpoints of said three-dimensional image data, second information indicating from which viewpoint position said three-dimensional image data is obtained, third information indicating a direction of sub-sampling of said three-dimensional image data, fourth information indicating arrangement of a camera that has picked up said three-dimensional image data, fifth information indicating a maximum shift amount when a parallax image of said three-dimensional image data is shifted, sixth information indicating whether a border is to be displayed around an image of said three-dimensional image data, seventh information indicating border image data to be displayed around the image of said three-dimensional image data, and three-dimension identification information indicating that said multimedia information file contains the three-dimensional image data.

5. (Canceled)

6. (Original) The image data generation apparatus according to claim 1, wherein

said file generation means provides a different extension to said multimedia information file between when said multimedia information file contains the three-dimensional image data and when said multimedia information file contains no three-dimensional image data.

7. (Original) The image data generation apparatus according to claim 6, wherein

said extension adapts to said plurality of different three-dimensional display methods and is different for each of said plurality of three-dimensional display methods.

8-9. (Canceled)

10. (Currently Amended) An image data generation apparatus, comprising:

a file generation unit for generating a multimedia information file including both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein header control information is added thereto,

wherein said image pick-up condition information includes at least one of information indicating a number of parallaxes in a horizontal direction and information indicating a number of parallaxes in a direction perpendicular thereto.

11. (Currently Amended) An image data generation apparatus, comprising:

a file generation unit for generating a multimedia information file including both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein header control information is added thereto,

wherein said image pick-up condition information includes at least one of information indicating a camera arrangement shape, information indicating an interval between adjacent cameras, and information indicating a distance from a camera arrangement plane to a convergence point.

12. (Currently Amended) An image data reproduction apparatus, comprising:

reception means for receiving a multimedia information file including both of three-dimensional image display control information generated by encoding a parameter for displaying three-dimensional image data and said three-dimensional image data, or at least two-dimensional image data;

file structure analysis means for analyzing a structure of said multimedia information file so as to extract the three-dimensional image display control information, header control information and said three-dimensional image data or said two-dimensional image data;

three-dimensional image display control information analysis means for analyzing said three-dimensional image display control information;

data reproduction means for reproducing said three-dimensional image data based on the header control information; and

data conversion means for converting said reproduced three-dimensional image data; wherein

said data conversion means converts said reproduced three-dimensional image data for data for display based on a result of analysis by said three-dimensional image display control information analysis means.

13. (Original) The image data reproduction apparatus according to claim 12, wherein

said three-dimensional image display control information includes at least one of first information indicating a number of viewpoints of said three-dimensional image data, second information indicating from which viewpoint position said three-dimensional image data is

obtained, third information indicating a direction of sub-sampling of said three-dimensional image data, fourth information indicating arrangement of a camera that has picked up said three-dimensional image data, fifth information indicating a maximum shift amount when a parallax image of said three-dimensional image data is shifted, sixth information indicating whether a border is to be displayed around an image of said three-dimensional image data, seventh information indicating border image data to be displayed around the image of said three-dimensional image data, and three-dimension identification information indicating that said multimedia information file contains the three-dimensional image data.

14. (Original) The image data reproduction apparatus according to claim 12 or 13, further comprising file type determination means for analyzing a structure of said multimedia information file so as to determine whether three-dimensional image display control information is included; wherein

said file type determination means determines whether said multimedia information file includes the three-dimensional image data.

15. (Original) The image data reproduction apparatus according to claim 12 or 13, further comprising file type determination means for analyzing a structure of said multimedia information file so as to determine whether three-dimension identification information is included; wherein

said file type determination means determines whether said multimedia information file includes the three-dimensional image data or determines on which three-dimensional display scheme data is based on.

16. (Currently Amended) An image data reproduction apparatus, comprising:

reception means for receiving a multimedia information file including three-dimensional image display control information obtained by encoding a parameter for displaying three-dimensional image data and said three-dimensional image data, or two-dimensional image data, said parameter including at least one of information data indicating a condition for picking up an image, information data indicating a method of generating three-dimensional image data from data of the picked up image, and information data for controlling display of the three-dimensional image data; and

file type determination means for analyzing an extension of said multimedia information file; wherein

said file type determination means determines whether said multimedia information file includes said three-dimensional image data or determines on which three dimensional display scheme data is based on, based on said extension.

17. (Original) The image data reproduction apparatus according to claim 16, wherein

said three-dimensional image display control information includes at least one of first information indicating a number of viewpoints of said three-dimensional image data, second information indicating from which viewpoint position said three-dimensional image data is obtained, third information indicating a direction of sub-sampling of said three-dimensional image data, fourth information indicating arrangement of a camera that has picked up said three-dimensional image data, fifth information indicating a maximum shift amount when a parallax image of said three-dimensional image data is shifted, sixth information indicating

whether a border is to be displayed around an image of said three-dimensional image data, seventh information indicating border image data to be displayed around the image of said three-dimensional image data, and three-dimension identification information indicating that said multimedia information file contains the three-dimensional image data.

18. (Currently Amended) An image data reproduction ~~apparatus~~ method, comprising:

reproducing a multimedia information file including both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein

said image pick-up condition information includes at least one of information indicating a number of parallaxes in a horizontal direction and information indicating a number of parallaxes in a direction perpendicular thereto.

19. (Currently Amended) An image data reproduction ~~apparatus~~ method, comprising:

reproducing a multimedia information file including both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein

said image pick-up condition information includes at least one of information indicating a camera arrangement shape, information indicating an interval between adjacent cameras, and information indicating a distance from a camera arrangement plane to a convergence point.

20. (Currently Amended) An image data recording medium, having stored thereon ~~recording~~ information representing a multimedia information file, the information when executed on an image data reproduction apparatus depicting information including both of three-dimensional image display control information generated by encoding a parameter for displaying three-dimensional image data and said three-dimensional image data, or at least two-dimensional image data, wherein header control information is added thereto.

21. (Currently Amended) The image data recording medium according to claim 20, wherein the information when executed, further depicting

said three-dimensional image display control information ~~includes~~ to include at least one of first information indicating a number of viewpoints of said three-dimensional image data, second information indicating from which viewpoint position said three-dimensional image data is obtained, third information indicating a direction of sub-sampling of said three-dimensional image data, fourth information indicating arrangement of a camera that has picked up said three-dimensional image data, fifth information indicating a maximum shift amount when a parallax image of said three-dimensional image data is shifted, sixth information indicating whether a border is to be displayed around an image of said three-dimensional image data, seventh information indicating border image data to be displayed around the image of said three-dimensional image data, and three-dimension identification information indicating that said multimedia information file contains the three-dimensional image data.

22. (Canceled)

23. (Currently Amended) The image data recording medium according to claim 20 or 21, wherein the information when executed, further depicting

said multimedia information file ~~is provided~~ with a different extension ~~between~~ when said multimedia information file contains the three-dimensional image data ~~and~~ than when said multimedia information file contains no three-dimensional image data.

24. (Currently Amended) The image data recording medium according to claim 23, wherein the information when executed, further depicting

said extension ~~adapts~~ adapting to a plurality of different three-dimensional display methods and ~~is~~ being different for each of said plurality of three-dimensional display methods.

25. (Currently Amended) An image data recording medium, having stored thereon ~~recording~~ information representing a multimedia information file, the information when executed on an image data reproduction apparatus depicting information including both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein

said image pick-up condition information includes at least one of information indicating a number of parallaxes in a horizontal direction and information indicating a number of parallaxes in a direction perpendicular thereto.

26. (Currently Amended) An image data recording medium, having stored thereon ~~recording~~ information representing a multimedia information file, the information when executed on an image data reproduction apparatus depicting information including

both of image pick-up condition information indicating an image pick-up condition for a three-dimensional image and three-dimensional image data, or at least two-dimensional image data, wherein

said image pick-up condition information includes at least one of information indicating a camera arrangement shape, information indicating an interval between adjacent cameras, and information indicating a distance from a camera arrangement plane to a convergence point.

27-32. (Canceled)

33. (Currently Amended) An image data recording medium, having stored thereon ~~recording,~~ in a recording area, information representing a multimedia information file, the information when executed on an image data reproduction apparatus depicting information including both of three dimensional image display control information generated by encoding a parameter for displaying three-dimensional image data and said three-dimensional image data, or at least two-dimensional image data, wherein

said recording area includes an image recording area for recording said three-dimensional image data or the two-dimensional image data, an audio recording area for recording audio data, and a sub code area for recording associated information including a time code.

34. (Currently Amended) The image data recording medium according to claim 33, the information when executed, further depicting recording of at least a portion of said three-dimensional image display control information in said image recording area.

35. (Currently Amended) The image data recording medium according to claim 33, the information when executed, further depicting recording of at least a portion of said three-dimensional image display control information in said audio recording area.

36. (Currently Amended) The image data recording medium according to claim 33, the information when executed, further depicting recording of at least a portion of said three-dimensional image display control information in said sub code area.